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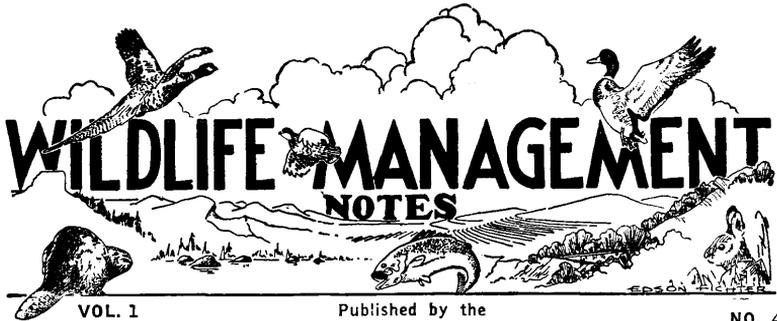
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# Management of Native Deer in Nebraska

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## PART I

Deer are on the increase in Nebraska. Reports of deer seen, of deer killed on highways, and of localized cases of damage to crops by deer have become increasingly frequent during the last ten years. Since Nebraska is not primarily a land of forests nor of great repute as a deer state, the presence of these mammals in more than rare occurrences arouses considerable interest—and creates new problems in wildlife management.

It is the purpose of these notes to answer some of the questions most commonly asked about deer in Nebraska, and to point out certain misunderstandings which have led to popular attitudes that are not in keeping with the best interests of the land, the people, or the deer themselves. Answers to the problems of deer management in Nebraska must, however, at this time be more general than specific, tentative and progressive rather than final.

WHERE IN NEBRASKA ARE DEER FOUND? Deer and evidence of these animals are being seen in most parts of the state where there are enough trees and brush to provide suitable food and cover. The principal centers of abundance appear to be the Nebraska National Forest in the central part of the state, the Pine Ridge in the northwest, the wooded areas of the Platte Valley, particularly the North Platte and the nearby Wildcat Hills, and the rough and wooded country of northeastern Nebraska. Beyond these centers deer are largely limited to wooded or brushy stream valleys and their borders. That Nebraska has many miles of creeks and rivers may be significant in the recent return of important numbers of deer to much of the state.

**HOW LONG HAVE DEER BEEN IN NEBRASKA?** Examination of the journals of early explorers reveals that deer were found in considerable numbers in the region that is now Nebraska by the first white men to arrive and report their observations. Fragments of deer bones and antlers found in excavations of Indian village sites indicate the presence of deer long before the coming of the white man.

**WHAT ARE THE SOURCES AND CAUSES OF NEBRASKA'S PRESENT DEER POPULATION?** It is possible that deer, like so many wild animals, were going through recurrent periods of relative scarcity and abundance long before the time of white settlement. The advance of civilization, as we know it, was apparently responsible for sustained losses in deer numbers during the last century; extinction was probably most nearly reached in the late 1800's or early years of the present century. In isolated areas small numbers of deer remained. This seed stock, together with a small amount of movement from similar, nearby deer ranges in neighboring states, is thought to have been the source of our present deer population.

Probably numerous causes have activated this return of deer to much of Nebraska. Many of these causes are not clear; their relative importance is difficult to evaluate. Protection by law has no doubt contributed considerably. Certain abilities of the deer to adapt themselves to changes in environment are possibly only now being revealed by their recent increases in a region where modern land use practices once appeared to have denied them suitable habitat.

**ARE THE DEER ALL THE SAME KIND?** Two species of native deer are present in Nebraska—the white-tailed or Virginia deer eastwardly, the mule deer westwardly. The ranges of the two species overlap in the central part of the state. A controlled harvest of deer was conducted in the Bessey Division of the Nebraska National Forest in December 1945; two of the 361 animals taken were whitetails. A few fallow deer, a species not native to North America, occur in the state as a result of releases and escapes.

The best field marks for distinguishing white-tailed and mule deer are furnished by their tails (Fig. 7). The mule deer's tail is white on the upper surface with only the tip black. A white rump patch extends on either side of and *above the tail*. The tail of the whitetail is blackish on the upper surface, showing only a thin fringe of white; the entire under side of the tail is white. When alarmed the whitetail characteristically raises the rather large bushy tail, showing then an unmistakably white "flag." The relatively large ears of the mule deer and the different branching patterns of the antlers (Fig. 7) offer other field identification marks. The fallow deer seen in Nebraska are white or whitish.

**HOW MANY DEER IN NEBRASKA NOW?** Actual numbers of any wildlife species are rarely determinable over an area as large as Nebraska (see also Wildlife Management Notes, Vol. 1, p. 7). Approximations of deer numbers can be made on certain deer ranges. *It is*

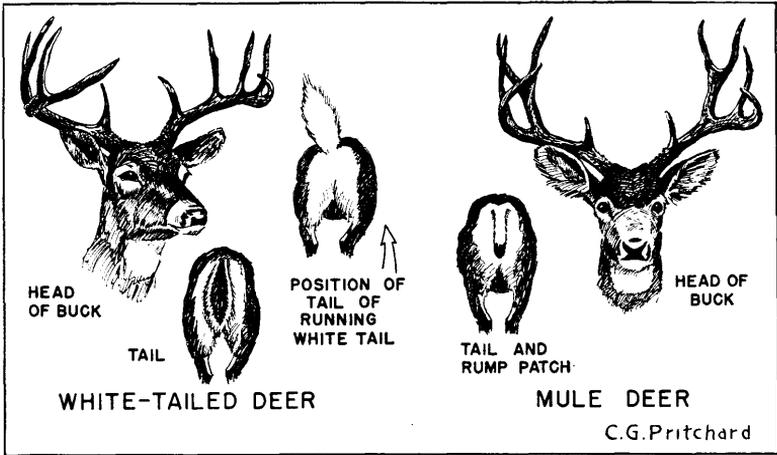


Fig. 7. Heads and tails furnish field marks by which white-tailed and mule deer may be distinguished. Mule deer are the more common in Nebraska.

more important, however, to know the relationships of the deer population to the extent and quality of its range. Examination of much of the known deer range in the state indicates that all suitable habitat is probably occupied.

**HOW FAST DO DEER INCREASE?** Since twins are common and triplets occasionally seen, a deer herd could double its numbers in a very short time under **favorable conditions**. Emphasis must be placed upon that term "favorable conditions." The extent and quality of deer range—called carrying capacity—appear to influence the reproductive rate. Unfavorable range conditions result in malnutrition and a lowered rate of increase. An analysis of age-classes among 361 deer harvested in the Nebraska National Forest in December 1945, indicated that the reproductive rate in that herd, hunted then for the first and as yet only time, was lower than that commonly shown by herds that are regularly hunted in obviously better range.

**WHAT ABOUT CARRYING CAPACITY?** Every good rancher and farmer knows that a given unit of pasture land has the capacity for successfully carrying only a limited number of livestock. Just as over-stocking of pastures with cattle brings decreased beef production, depleted range, soil erosion, and damaged economy, so can over-stocking of deer prove detrimental to the ability of the range to produce and maintain a thrifty herd.

The carrying capacity of deer range is determined by the **kinds of food plants** present, their **abundance**, whether the deer like them, and their **food values**. Deer can and do become too numerous. If they increase beyond the carrying capacity of their range, the food plants cannot main-

tain themselves under the excessive pressure and depletion of the range follows.

The rancher profits by the annual increase of his herd by selling some of his cattle; he manages his herd on a **sustained yield** basis by keeping it within the carrying capacity of its range; he annually **reduces** his herd by removing that portion which the available food supply can not support. He thereby makes **wise use of his land**. When over-abundance of deer occurs natural reductions result because of depleted range. The direct causes may be malnutrition, lowered reproductive rate, starvation, or disease. To allow a deer herd to increase beyond the carrying capacity of its range is not wise use of the land.

Recognition of depleted deer range is not always possible by casual observation. For example, starving deer do not disperse in search of food; damage to range is, therefore, usually spotty. Patches of food plants untouched by deer on over-stocked ranges can obscure the true picture.

Seventeen wildlife biologists, including some of America's leading students of deer management, met at the Ninth North American Wildlife Conference in 1944, to discuss experiences with deer herds that have grown too large for the natural food supply. They were in agreement on the following points:

1. **If excess deer are not shot off they will starve off.**
2. **When a herd starves down the carrying capacity of the range goes with it.**
3. **The sooner excess deer are removed, the more deer the range will carry later.**
4. **Reduction should be completed before starvation begins.**
5. **Delay in removing excess deer lowers their physical vigor.**
6. **A herd can be reduced effectively only by removing females.**
7. **Hunting provides the only practical method of removing deer.**

**DEER HUNTING IN NEBRASKA.** On the basis of present knowledge, there are no indications that the deer population of Nebraska will reach numbers great enough to warrant a statewide open season such as those in some states where many thousands of animals are harvested annually. Deer range in Nebraska will probably not support such numbers. Local situations, however, where herds exceed the carrying capacity of the range, may necessitate harvests such as that conducted in 1945 on the National Forest area. Increasing reports of damage to crops in several widely separated areas of the state afford some evidence that harvestable surpluses of deer are becoming available.

Legislation enacted in 1947 authorizes the Game Commission to issue special permits for the killing of only male deer in certain counties in Nebraska.

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<sup>1</sup> Leopold, A., L. K. Sows, and D. L. Spencer, Jour. Wildlife Management 11(2):173.

Edited by Edson Fichter.

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